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AUTHOR Kahn, Victoria
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ABSTRACT

The paper describes ways of incorporating a ceramic program into existing curricula for exceptional children. The program focuses on the process of producing clay products and has as its goals: tension release, heightened self-image, improved coordination, personal growth and emotional maturity. The manual describes organizational structure, goals, materials, lesson plans, and evaluation procedures. Implementation guidelines address affective, motoric, and aesthetic goals. Lesson plans specify contents of six 1.5 hour sessions: (1) introduction and pinch pot; (2) coil pot; (3) glaze; (4) slab technique; (5) animal sculpture; and (6) review of glazing. Evaluation suggestions include informal staff and student evaluation. Information on field testing, pottery terms, glazing, kiln management, safety precautions, and additional resources conclude the paper. (CL)

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THERAPEUTIC CERAMIC PROGRAM

FOR

SPECIAL STUDENTS

Paper presented at the Annual Convention of the Council for Exceptional Children
(64th, New Orleans, LA, March 31-April 4, 1986).

Staff Development Manual

by

Victoria Kahn

Learning and Adjustment Program

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DIVISION OF SPECIAL EDUCATION
1605-B WEST MAIN STREET
NORRISTOWN, PA 19403

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Victoria Kahn
Program Developer

INTRODUCTION

Teachers of special education students are continually seeking new methods for stimulating their pupils to become active participants in the learning process. The "Therapeutic Ceramic Program for Special Students" offers a new approach toward this goal.

Field tested and evaluated with six different populations, on both the elementary and secondary levels over five years, the Ceramic Program has proven successful in enhancing the learning behaviors of the students involved. Although the Program was initiated with institutionalized students, it is very flexible and can be easily modified to fit the needs of students with various exceptionalities who are placed in different settings.

The Staff Development Manual has been devised to assist teachers who wish to incorporate the Ceramic Program into their curricula. The teacher training units are designed for six, 1½ hour sessions, based on the same schedule as the Ceramic Program. Thus, the teacher trainees will be given a "hands on," sequential experience with clay comparable to the one outlined for their students.

Each special student in the Program is expected to produce several clay products by the end of the six sessions, but the process itself is the most important element in achieving the goals of the Program. The nature of the basic material, clay, lends itself to enhancing student learning in the affective, motoric and aesthetic modalities.

Among the short term goals are release of tension, heightened self-image and improved coordination. Long range goals include personal growth and emotional maturity, as demonstrated by increased skill in problem solving and decision making.

The Staff Development Manual includes organizational structure, goals, materials, lesson plans and evaluation procedures. Data regarding field testing are to be found in the Appendices. Guidelines for the six class sessions contain suggested activities and examples based on the experience of the Program Developer.

ORGANIZATION AND STAFFING

The Ceramic Program is suitable for a variety of exceptionalities, including Retarded, Learning Disabled and Emotionally Disturbed students, in an age range from 6 to 18 years. The Program may be implemented in an institutionalized setting or a local district special education program. A class of not more than 7 to 8 children is recommended, with one teacher and at least one assistant. This arrangement is flexible, depending upon the needs of the students and staff availability.

The successful teacher ideally has some knowledge of the ceramic process and is trained in classroom management techniques. Perhaps most important are the qualities of patience, fairness, firmness, flexibility, a sense of humor and an open mind.

Experience in the program indicates that staff members act as strong, positive role models in the classroom. Since some of them may also be learning clay skills, their procedures and reactions are observed and copied by the students. Such interaction acts as a catalyst and results in a stimulating and enjoyable experience for both staff and students.

In most school or institutional settings, it is assumed that the Program teacher will have the cooperation of the art teacher, who will be responsible for the operation of the kiln.

LONG RANGE GOALS

1. Affective Goals:
 - a. To improve self-image
 - b. To develop patience
 - c. To increase task orientation
 - d. To improve decision-making skills
 - e. To increase problem-solving ability
 - f. To delay gratification
 - g. To increase positive handling of failure and success
2. Motoric Goals:
 - a. To develop eye/hand coordination
 - b. To increase manual dexterity
 - c. To improve small muscle control
 - d. To release tensions appropriately
3. Aesthetic Goals:
 - a. To develop consumer awareness
 - b. To develop sense of form, function, color and design
 - c. To increase interest in student's environment

IMPLEMENTATION

1. Affective Goals:
 - a. To improve self-image
 - (1) Clay is a forgiving material. It is okay to destroy and start over. Student need not feel hopeless and despairing.
 - (2) The product is an extension of self. If the product has worth, then the self has worth.
 - b. To develop patience
 - (1) Student must begin a project and then leave it for a week.
 - (2) The process of forming, bisque firing, decorating and glazing, and glaze firing takes about four weeks to complete.
 - (3) The final product is viewed as part of a continuum, as the student may be working on the second or third project by the time the first one is completed.
 - c. To increase task orientation
 - (1) Student learns to look forward to class sessions.
 - (2) Student thinks about product when not in class. Assignment may include looking in shop windows or magazines for ideas.
 - (3) Student plans for future products which require ever increasing skills.
 - d. To improve decision-making skills
 - (1) Student is forced to make decisions when working on project.
 - (2) One decision leads to another.
 - (a) What shall I make?
 - (b) How shall I make it?
 - (c) What size and dimension shall it be?
 - (d) What color, decoration and glaze are appropriate?
 - (3) Many choices are possible in clay working.
 - (a) Ornamentation on wet clay
 - (b) Sgraffito on dry, unfired clay
 - (c) Slip design on dry unfired clay
 - (d) Underglazed design on bisque
 - (e) Choices of glossy or matt glazes

- e. To increase problem-solving ability
 - (1) There are very few rules to follow when working with clay.
 - (a) Pieces of attached clay must not fall apart.
 - (b) Finished work must not blow up in kiln.
 - (2) Initially, teacher must assure student that most catastrophes will not happen. Student slowly observes cause and effect of above rules.
 - (3) When a problem occurs, student must make observations to correct problem.
 - (a) Glaze is too thick or too thin
 - (b) Clay is too dry or too wet
 - (c) Piece blows up in kiln
 - (d) Knob, handles and other appendages fall off
- f. To delay gratification
 - (1) Student must postpone the excitement of working with clay from week to week.
 - (2) The process continues for four weeks.
 - (a) Form raw clay into object
 - (b) Piece must be totally dry before bisque fire (two weeks)
 - (c) Piece must be decorated, glazed and refired (two more weeks)
 - (3) At any time in this process, something can delay its completion still further.
- g. To increase positive handling of failure and success
 - (1) Student sees himself as a loser in life.
 - (2) When something successful appears, he will deny its worth.
 - (3) Sometimes he will break or lose his project because he can't see himself as making something of value.
 - (4) Gradually the student comes to see that he is a worthwhile person and capable of success.
 - (5) To be a success does not mean that every project from now on is expected to be successful.
 - (6) The student can be a worthwhile person EVEN IF he has a failure.
 - (7) Student makes the observation that the project may not be good but he is OKAY.

2. Motoric Goals:

- a. Eye/hand coordination
 - (1) Working with three-dimensional material
 - (2) Manipulating tools and clay forms
- b. Manual dexterity
 - (1) Joining pieces of clay
 - (2) Handling tools and clay
- c. Small muscle control
 - (1) Rolling, squeezing and shaping small clay forms
 - (2) Manipulating tools, rolling pin, etc.
- d. Release of tension
 - (1) Touching, squeezing, rolling of clay material involves the student and offers a physical means of relaxing.

3. Aesthetic Goals:

- a. To develop consumer's awareness of value
 - (1) How is piece made?
 - (2) Is interior safe for hot fluids?
 - (3) Has it been glazed with lead-free glazes?
 - (4) Is piece balanced for ease in handling?
 - (5) Will it pour easily and safely?
 - (6) Are edges and bases smooth and mar-proof?
- b. To develop a sense of environmental awareness
 - (1) Does this color go with my other possessions?
 - (2) Will this lid fit tightly?
 - (3) Is this a pleasing decoration?

MATERIALS AND EQUIPMENT

Clay

Amaco makes a good white, low fire clay. White is particularly desirable for children because it shows off brilliant glazes. Kids don't like subtle colors! Red clay is preferred by adults because it has more character. Cost: 25¢ per lb. average. Amount: A class of ten, meeting once a week for six months could probably get by with 300 lbs. of clay.

Glaze

I like Amaco low fire glazes since they are generally dependable, have a large range of textures and colors and are carried by many school suppliers. Cost: \$5.00 per lb. average.

Kiln

There are many good kilns on the market. From my own experience, I prefer L & L. Their kilns are well-built, seem to hold up to a lot of abuse and are easy to use. Purchase a high fire model even if you never use it to maximum capacity, since it will hold up better and be less likely to burn out. A new kiln is a big investment, probably close to \$500.00, especially when adding shelves and kiln furniture. Don't forget the pyrometric cones, (you want cone 06), kiln wash, kiln cement and stilts.

Miscellaneous

1" dowel cut into 12" lengths (make good rolling pins)

Kitchen sponges cut in quarters

Popsicle sticks, manicure sticks, kitchen knives, some wire loop tools,
canvas or oil cloth to cover tables

Found objects for texturing (raid the tool box and junk drawers)

Apron and towel

LESSON PLANS

Introduction

The ceramic Program is organized for six, 1½ hour sessions, to be held once a week. The following six narratives, one for each session, reflect the approach to each lesson used by the Program's Developer. The lessons were field tested in six varied groups. (See Appendices for a description of these groups.)

The narratives are addressed to the students, and special notes are included for the teacher. In each lesson, the teacher gives directions and demonstrates procedures before passing out materials.

During the six training sessions outlined for the Staff Development program, teacher trainees will themselves complete these lessons.

Lesson #1 - Introduction and Pinch Pot

Objectives: Introduction to Ceramic Project

Directions for making Pinch Pot

Creation of a Pinch Pot by each student

Materials: Samples of completed glazed pottery (made by students, if possible).

Sample Pinch Pot

Raw clay

(Teacher points to display of raw clay and glazed pottery.)

This is raw clay, and this is a finished product made out of clay. We are going to talk about raw clay and how it gets to look like this. What is this soft stuff we call clay?

Any guesses? No, it's not mud or dirt or playdough.

Origin of Clay:

This was once a mountain. It's pretty amazing but true.

A long, long time ago, long before people, animals, dinosaurs or even bugs, there was rock and water. The Earth is made up of granite rock and water. Let's think about this granite mountain and what's happening to it. Any guesses? Well, the weather is happening to it. Rain, hot sun, thunder and lightening, snow and freezing. All this action is causing tiny little pieces of the rock to break off and wash down the mountainside. Some of you might remember your science lessons. That action is called "erosion" which means the wearing down of materials. All this powdered rock washes down the mountain, runs along the creek and settles there. Then it collects all kinds of dead things. By now there are living things on the earth, and dead animals, bones and leaves and bark and bugs and all kinds of organic material have mixed with the powdered rock. "Organic" is another science word that means it was once alive. When rock and organic materials mix together, we get CLAY!

By this time, cave men are also on the Earth. Let's imagine a cave father hunting for food for his cave family. He walks along the creek bed and leaves a big footprint. (Teacher flattens piece of clay with fist.) The sun dried it, and when he came back with a handful of berries, he picked up the footprint and was able to use it for a con-

tainer for his berries. You see, there's a big difference between clay and dirt. Clay is sticky and holds together, because of all the organic material. Dirt just crumbles. So the cave family was able to keep extra food in the clay container. Only problem was when it rained. What do you think happened? Right, the dried clay got soft and all the food was lost. But that's the way it was for a long time.

Origin of Fired Pottery:

Early man figured out some pretty good shapes for holding things but didn't know how to make it all permanent until a gifted caveman discovered fire. Probably one of these clay pots was sitting around the fire and got burned or was struck by lightning. When the clay and fire got together, something quite amazing happened to the clay. Anybody guess? The clay got as hard as a rock. Once the clay got that hard, no rain could ever soften it again. It really changed into another material. So it started out as rock, became soft and flexible, and then got hard as a rock again after the firing.

Today we use electric kilns or gas kilns for firing, but many people use wood or oil to make their fire. The important thing to remember is that all ceramics go through the firing process. Fire is part of the process used to make bricks and glass, bathtubs and sewer pipe and dishes, Corningware, tiles, porcelain, enamels and much more. All of these things are made from clay material and need fire to make them hard and permanent.

Making a Pinch Pot:

Now we are going to make a pinch pot just the way the cavemen did, and the way Indians and Mexicans do even today.

There are a few rules. The most important one is "Don't make air bubbles!": (Teacher, dig your fingers into hunk of clay and then cut it open to demonstrate holes.) You don't ever want to do this. Clay has water in it. What happens when water boils? Right, it turns to steam. Steam is very powerful; it can move an engine! That steam doesn't know it's inside your beautiful pot and it just has to blow when it's hot enough. Your pot will be shattered, and all the pots near it can

get damaged, too. Sometimes it sounds like a popcorn maker inside the kiln. This is what you must do to get rid of the air bubbles: pound the clay, and hit it really hard on the table. This is also very good for getting rid of angry feelings. Try to keep it from becoming a pancake.

After one or two minutes of wedging, pack the clay as if it were a snow ball, making it sort of round. Then stick your thumb into it so it looks like an orange with a hole in it. Good. Just keep pinching your thumb and finger evenly all around, trying to keep the same thickness. Use your fingers to measure thickness, and keep the edge from getting too thin. You'll notice that all the pots are getting little cracks. That's because the clay is drying out as you work on it. You need a bit of water — just a finger full. Rub it in and see all the cracks disappear. You don't have to keep it round; it can be square or diamond or curved. This first pot is to help you to know what clay feels like and what it can do. That's why we only use fingers for this lesson. You have ten built-in tools!

Okay, let's get to work. I'll pass the clay. Get started by pounding it for a minute. Make a ball, stick your thumb into it and start pinching. Remember, clay is a material that can be recycled. You can always mess it up and start over. Clay can be used over and over until it's fired, so there is very little waste. Good, you are doing a nice job. Give it support by holding it with two hands, keep the walls even, enjoy what you're doing. Let's also make sure your pot has your name and class on the bottom. That's terrific, I'm proud of you all.

Lesson #2 - Coil Pot

Objectives: Directions for making coil pot
Creation of coil pot by each student
Materials: Clay, simple tools, sponge and water
Student made coil pot for samples

Today I want to show you how to make a coil pot. "Coil" is just another name for a clay worm or snake. This technique is very useful for making bowls and vases. We will also learn how to attach

two pieces of clay so they will stick together. Remember, last week I said there are very few rules to working with clay. What was the most important rule? Yes, pound out the air bubbles! The second most important rule is to wet both pieces of clay before you put them together. If you don't do this the pieces will come apart. For every material there is a method of attaching one piece to another. For sewing, you use what? Yes, a needle and thread. For wood, you use glue and nails; metal requires soldering. I'm sure you can think of others. But clay needs what is called "slip," a mixture of clay and water that acts like glue.

Did you ever see huge Chinese floor vases and jars in museums? Some of the most beautiful Chinese pottery was made by hand for Emperors hundreds of years ago and kept in the Emperor's Palace. Chinese workers dug and prepared the clay and made huge ropes of it. The master potter sat in a special hole in the floor that had a turning wheel in it. The worker slowly walked around the master potter as he attached the pieces. The master worked slowly and carefully until he made a tall, beautifully shaped vase. Then he would decorate it and glaze it with a secret glaze recipe and present it to the Emperor. If the Emperor didn't like the pot, the potter was thrown in jail!

Making a Coil Pot:

Now watch me. Take a chunk of clay and pull it out like a triangle. Now very gently start rolling it. Use the pads of your fingers and not your palms. Apply a light, even pressure and keep your hands moving. It takes a little practice but you'll get it. Decide what shape pot you are going to make. It doesn't have to be round; it can be oval or diamond or heart shaped. Cut out that shape for the base first. Now make your first ring of coils. Remember to put slip on the first coil and also on the joint of the coil. Keep adding coils and attaching them in that way. Smooth the inside coils as you add them, but it's okay to leave the outside with the coils showing. You can even get a little fancy and make a lacy kind of coil with a lot of holes and spaces for little decorative buttons like this. (Teacher demonstrate with sample) Now before you put it on the shelf, let's make sure your name and class are on it and also that it is as smooth and well-finished as you can manage. You have now completed two projects, and next week you will have two things to glaze. See you then!

Lesson #3 - Glaze

Objective: To complete the process by glazing the first two projects.

Materials: Glazes, brushes, glaze chips, sponge and water, newspapers.

Today you will glaze the first two pots you made. Look at them--they are great! You must have paid attention to everything I said because nothing blew up or fell apart. You can see some places are very rough. How do you think you can avoid that? Yes, take the time to sponge it smooth.

But your piece is not finished until it goes through the glazing process. Right now it's an ugly white (or red) and rough. You couldn't use it or wash it in its present condition.

What does the word "glaze" sound like? What word does it make you think of? Glaze sounds like glass! In fact, that's what it is--powdered glass mixed with water. We put it on, put the pot back in the kiln and it comes out shiny, colorful, and washable. Then you can put it in the oven, the freezer, the dishwasher, or microwave. It is just like any pottery you might buy in the store, only better because you made it!

Powdered glass is heavy so it settles to the bottom of the jar. You must stir the glaze until it's all mixed. That's important, because if it's not mixed properly, you wind up painting with water, not glaze. The mixture should resemble cream, not too thick, not too runny. But what about the color? This dull gray isn't a very interesting color for a pot. In fact, the label says the glaze is green, so you can only imagine what it will look like after firing. But there is an easier way. I have made a glaze chart of all the colors so that you can match up the sample chips with the jar labels.

Since there is always clay dust on a pot after it is fired, the first thing you must do is to run the pot under water for a second. Don't soak it, just rinse it off. Then stir the glaze from the bottom and apply three layers of glaze inside and three layers on the outside. Do the inside first. You can use different colors inside and out, but be sure

you keep your brushes separate. If two people want to use the same color, just sit together and share it. Make sure you dab the glaze in all the little hollows and crevices. DO NOT GLAZE THE BOTTOM! This is very important since the glaze melts in the kiln and will stick all over the shelf. I would have to break your pot to get it off the shelf. When you are finished glazing, leave your pot on the table until it is dry. While you are waiting, you can wash your brushes and clean the glaze off the jars and close them. Then lift your pot and look at the bottom. If there is glaze on the bottom, sponge it off. That's the last thing you do before putting it on the shelf.

Notes for Teachers:

Allow ten minutes for clean up. Things to watch for -- sloppy brushing, glaze all over the table. Try to avoid waste, since glazes are expensive. Tell the students to wipe the brush on the rim of the jar and wash it by pressing the brush into palm of hand until all glaze washes out. Match jar lids to jars and see that jar threads are cleaned before closing. Cover tables with newspaper for glazing, since it is easier to roll up the mess and discard. But make sure all materials have been cleared first. Teacher must check bottoms of pots before loading into kiln to avoid disaster. Generally, the art teacher should do the loading of kiln, but she won't appreciate having her kiln shelves ruined and doesn't have the time to check your students' pots.

Lesson #4 - Slab Technique

Objectives: Directions for making a Slab Pot

Creation of a Slab Pot by Each Student

Materials: Samples of Student-Made Slab Pottery

Rolling Pins

Sponges, tools, clay

The first things you made out of clay are all ready for you to take home. I'll give them to you at the end of the period. I'm very proud of you. You listened well and paid attention -- that's why the results are so good! Yes, it took four weeks to see your work finished. Your pot is from a rock that became clay that became rock again. Now it is shiny and waterproof and you can wash it and bake with it and eat out of it.

Today we are going to make slab pots. This is my favorite technique because it is so versatile. I have with me some different objects that can be made with slabs. (Show sample boxes, mugs, mirror frames, plates.) The first thing we always do is pound the clay to get rid of air pockets. Then we roll the clay just like making cookies or pie crust. Put the rolling pin in the middle of the clay and roll forward and back. Stop just before you get to the very edge. Try to keep the slab an even thickness, about 1/2 inch thick. Sometimes, when you roll you can see bubbles. Just pop them with a sharp tool.

To make a mug, cut nice straight edges so that you have a rectangle like this. Stand the slab on end and put the two cut edges together. Remember to first wet the edges with water. Now roll a skinny coil, wet the coil and place it on the edge where the clay has been joined. Work the coil in so you can't see the seam. Very good, now your mug needs a base. Roll out another small piece and place your mug on it. Cut around the edges leaving a little extra. This edge then gets worked up over the seam and finished as neatly as possible. Now this cylinder can have a handle, a spout, or a lid.

You can decorate the surface with a clay stamp or by scoring a design or even adding pieces of clay. You can even change the basic shape. It doesn't have to be round -- it can be oval or square or diamond shaped. Remember, every time you attach one piece of clay to another, you must wet the surface with clay slip or water. If you want to make instant texture or design, you can do it by rolling a mesh cloth over it. You can also stamp the clay or add clay buttons and decorations.

Notes for Teachers:

This technique is good for making four-sided boxes. Cut out sides to fit and attach one at a time onto base. (Clay should be on the firm side to do this well). To make a mirror or picture frame, use a bowl or jar lid for a template. Trace around the shape and cut out clay, cut a smaller opening in center. Decorate the surface by stamping or texturing. Don't forget the holes for hanging.

Lesson #5 - Animal Sculpture

Objective: Creation of a sculpted four-legged animal from one piece of clay.

Materials: Clay, tools, sponge

Student-made samples of one piece animal sculpture

Today I want to show you a special way to construct an animal so that it is sturdy and the head and legs will not fall off. Take a piece of clay the size of an orange and prepare it. Now stretch it out and with a sharp knife or tool make a cut at each end and bend it like this. You are going to squeeze the parts of the animal out of this chunk of clay -- the head out of one end and the tail out of the other. No attaching parts!

Choose an animal and give some thought to what your animal looks like. It can be from the zoo, the farm, the jungle or even a prehistoric dinosaur. Think hard about what makes this animal special. What do you think of when you think of a lion? Yes, a lion has a mane, and what kind of tail? How about a rhino? -- a big body and a horn. An elephant? -- two big ears and a trunk. So you see, once you get the important characteristics of the animal, the rest is easy.

Notes for Teachers:

When student is finished with sculpture, scoop out about an inch of clay from underneath form. This can be described as "surgery" to help animal fire without blowing up or cracking.

Lesson #6 - Review of Lesson # 3 (Glazing)

Objectives: Review of Lesson on glazing

Glazing of Slab Pot and Clay animal

Materials: Glazes and brushes

Newspapers to cover tables

Today is our last day together. You will glaze the rest of your work today, and I will return it to you next week. I'm very proud of your accomplishments. You must have paid good attention because your things came out beautifully.

Now let's review our lesson on glaze. What is it? That's right, it's liquid glass. And what happens when you paint it on your pot and fire it? Yes, it turns out shiny and colorful. Can you eat from it and wash it? Yes, and you can put it into the oven. Now who can tell me the steps in glazing? What do you do first? Right, file the rough edges and rinse under water. Then? You stir glaze from bottom of jar until it behaves like heavy cream. How many coats? Three layers inside and out. Do you glaze the bottom? NO! Why not? Because the glaze will stick to the shelf forever. Check and sponge off the bottom of your pot the last thing before putting it on the shelf for firing. Okay, let's get started.

Note for Teachers:

Distribute work following discussion to facilitate student concentration. Examine and praise each student's work. Make sure pupils remember and properly perform all the steps for glazing.

EVALUATION

- I. Informal Staff Evaluation of Class. Progress of class in relation to affective, motoric and aesthetic goals. (See attached form.)
- II. Variability of Behavior in the Classroom. Completing checklist for student each week provides valuable data for comparative purposes. (See attached form.)
- III. Informal Student Evaluation. Written summary of student's reactions to the Program. (See attached form.)

INFORMAL STAFF EVALUATION OF CLASS

1. Did your students gain something positive from the program?
2. Do they feel a sense of accomplishment?
3. Do you as teacher see a development in patience, self-motivation and problem-solving skills?
4. Do you see improvements in persistence and follow through?
5. Did this learning experience help them improve their basic self-image?
6. Do you see ways that this program could be developed to improve a specific problem?
7. Do you observe improved eye/hand coordination, manual dexterity and small muscle control?
8. Do students display growth in consumer awareness of value and a sense of environmental awareness?
9. Do you have any positive critical remarks to make: How can the program be improved? Are the goals realistic and attainable?

Name _____
 Age (CA) _____
 Date of Record _____

Key:

0 Behavior not present
 to
 4 Behavior is excessive

VARIABILITY OF BEHAVIOR IN THE CLASSROOM

	0	1	2	3	4
1. Frustration reactions					
(a) tantrum					
(b) crying					
(c) pouting					
(d) using profane language					
(e) destructive <u>on own or others work</u>					
(f) explosive					
2. Poor adjustment to environmental change					
3. Poor adjustment to change in routine					
4. Response to authority					
(a) disobedient					
(b) difficulty accepting criticism					
(c) resentful					
(d) defiant					
(e) stubborn					
(f) has little regard for rules, limits, etc.					
5. Behaviors related to class assignments					
(a) appears to be bored					
(b) does not finish work					
(c) attention wanders					
(d) constant need for teacher's attention					
(e) refuses to do work					
(f) lacks self-sufficiency					
6. Annoying behaviors					
(a) talks out loud					
(b) out of seat					
(c) <u>difficulty settling down</u>					
(d) <u>touches other's work</u>					
(e) bothers others verbally					

or physically

BEST COPY AVAILABLE

INFORMAL STUDENT EVALUATION

Please answer these questions:

1. What did you like the most about the ceramic program?
2. What did you like the least?
3. Would you like to do it again?
4. What did you learn?

Comments:

FIELD TESTING

The Ceramic Program has been successfully field tested in six different settings, as follows:

1. Adolescent Unit - Norristown State Hospital
2. Alternative School - Norristown State Hospital
3. Juvenile Forensic Unit - Norristown State Hospital
4. Silver Springs Residential School - Plymouth Meeting
5. Montgomery County Youth Center - Jeffersonville
6. M.C.I.U. Special Education Class, Limerick Elementary School (Spring-Ford Area School District) - Royersford

The students ranged from moderately to severely emotionally disturbed with overlays of minimum brain dysfunction and retardation. Age of pupils was from 6 to 18 years.

Description of three different classes and their response to the Program:

1. The Adolescent Unit teenagers were able to manage an academic classroom structure. Generally they were manageable but had heavy emotional needs. Most were severely depressed. The Ceramic class for them was unifying and pleasurable. There were stimulated out of their lethargy and challenged to actively participate in the class. Several of the patients were quite talented and responded favorably to the opportunity for creativity. One girl won a first prize in ceramics in a state-wide contest.
2. The Alternative School population is an outpatient group. They are bussed home every afternoon and consequently have few controls placed on them by authority figures. They were roudy, loud, hostile street types, and virtually all were abusing drugs and/or alcohol. The Ceramic Program for them served to lessen tensions and acted as an emotional outlet. At first they were very negative about coming to class, as they are about most things in their lives. After the first session, one angry young man told me, "Man, I could do this all day, it turns me on." The smile on his face told me volumes about his needs being met. He was one of the most creative students and his behavior in class was cooperative. He had a difficult time dealing with his success at first. Having experienced failure all of his life, he,

his family and peers viewed him as a loser. He learned that he could achieve something of value and that he did not have to deny his success. The rest of the group became more "civilized" and positive in their outlook.

3. The Juvenile Forensic Unit is made up of high school aged youth who have been committed by legal action for criminal behavior. These young men had a variety of problems. Many of the higher functioning teenagers were bright, mannerly and personable. The lower functioning youth had more severe acting-out behavior problems. This group also developed insight and patience in the Ceramic Program. One young man learned to stick with a problem until it was solved. Another developed a fine artistic hand and was delighted with the opportunity to express himself.

All of the Norristown State Hospital groups developed a better self-image, a more positive outlook, and a sense of success rather than failure. They were able to set goals, assume responsibility and become task and reality oriented.

4. Silver Springs is a private residential school with a population of Socially Maladjusted and Emotionally Disturbed children from ages 5 to 14. The children come from abusive and/or neglectful environments. Although their I.Q.'s are in the normal range, most have educational deficits and behavioral problems.

After several meetings with the staff to explain the program, and to arrange for work space and installation of a kiln, we were ready to start. The teachers were briefed, and four classes a day were arranged with 7 or 8 children and 1 adult in each class. At first, there was a lot of testing by both students and staff. It's not easy to walk into a situation and upset the routine without expecting some kind of feelings to be generated. The first week was exciting and challenging and everyone soon became very involved. It was very apparent that many of the students were unfocused, undisciplined, unattentive, hyperactive and impatient. They talked over each other's conversations, touched each other's work and were generally rowdy. Some of the children were hypocritical of their abilities, apprehensive and anxious. Almost all had negative self-images. Almost all were shocked and disbelieving about having to wait 3 to 4 weeks

to see the final results of their labors. However, by the end of the first 6 week round, the worst behaved student of the group actually expressed appreciation to me and said he loved my class.

One angry boy told me he felt very tense, as if he were going to explode. He felt he would hurt himself or another person or break something. I went him out on the porch with a hunk of clay and told him to throw it on the floor with great power. At first he refused because he thought he would destroy the clay. When I reassured him that clay had no feelings, he began to forcefully heave the clay onto the concrete pad. After 20 minutes of fierce activity, he came in, saying he felt much better. He was able to release his tension in an acceptable manner, thus proving the therapeutic healing capacity of clay.

The adult teachers or aides in these classes served as role models and were a very important part of the success of the program. In many cases, it was a first time experience for them also, and their reactions to success or failure, frustration, annoyance, etc. translated to the children. In some cases the adult became so engrossed in what she or he was doing that the class went largely unmonitored.

By the end of 12 weeks, it seemed evident that this program had fulfilled its potential as a catalyst for behavioral improvement. The children paid better attention, and they were certainly proud of their accomplishments. Several said that they could spend all day working with clay.

5. The Montgomery County Youth Center has a population of juvenile delinquents between 12 to 18 years old who have been arrested for anti-social behaviors from robbery and theft to more heinous crimes. These adolescents are under a great deal of pressure to behave appropriately since they must present a good image to the judge. Negative affective behaviors, which the Program attempted to alleviate, included low self-esteem, poor self-control and instant gratification. The students were anxious to come to class, enjoyed working with clay, and were pleasantly surprised that they were able to produce well made pots.

6. The M.C.I.U. Special Education Class at Limerick Elementary School contained children between 9 and 11 years old who had been diagnosed as problem children by their districts and placed in an I.U. class. The children had emotional problems and learning difficulties and were bussed to Limerick from other parts of northwestern Montgomery County. The school art teacher was most cooperative in doing the firing for the Ceramic Program. I spent about 90 minutes one day a week working with the children and provided clay, glazes and other materials. They had never worked with clay before and were very excited by the material. The experience promoted a considerable amount of socializing and interacting, and the feedback to me was very rewarding. Even the most inept and handicapped of the group were able to improve their finger dexterity. Of greater importance was the heightened self-esteem and the looks of pride when they saw their finished projects. One child told me, "I never knew I could do something that my mother would like." The teacher and the aide were very pleased with the children's efforts and saw many positive results in the areas of persistence, follow-through, patience, problem-solving, and self-motivation.

POTTERY DEFINITIONS

- Bat - Portable work surface - plaster, wood, composition board
- Bisque - After first firing - before glazing - can use underglazes
- Ceramics - Anything made of clay which goes through process of fire;
i.e., pottery, glass, enamel, bathtubs, pipe, brick, refractory
- Clay - Decomposed rock
- Stages of Clay: A. Plastic - soft, pliable, can be molded and modeled.
B. Leather Hard - holds its shape, can be incised,
decorated with engobes.
C. Bone dry - all physical water dried out, rigid,
ready to fire.
- Cones - Pyrometric device to tell temperature of kiln. Made of
specially formulated clay which melts at precise temperature.
Cone 06 is earthenware temperature 1873° F.
- Earthenware - Low fired pottery (under 2000°F.) porous.
- Engobe - Slip with color added. Use on greenware only.
- Firing - Process of heat which completes cycle of granite to clay to
ceramic. Chemical water leaves clay and materials fuse.
- Glaze - Glass in liquid form which fuses to glass contained in clay body.
- Glossy Glaze - very shiny smooth glaze
- Matt Glaze - dull surface glaze
- Overglaze - lusters, gold, platinum. Added after glaze fire and fired
to very low temperature. (1320° F.) cone/18.
- Satin Glaze - buttery soft glaze
- Underglaze - ceramics pigments painted on bisque
- Greenware - Bone dry ware - before firing - can use engobes
- Grog - Clay which has been fired and ground. Controls shrinkage, adds
texture.
- Kiln - Furnace made of refractory material capable of producing heat
up to 2300° F.
- Majolica - Earthenware with color applied to opaque glaze - named for
island of Majorca.
- Porcelain - High fired ware - translucent - non-porous - vitreous
- Pyrometer - Device that measures internal temperature of kiln

Sgraffito

- Scratching through colored slip to show clay body color

Slip

- Liquid clay - used to adhere 2 pieces of clay together, also used for decorating when colorants are added. Use of greenware.

Stoneware

- High fired ware (about 2300° F.) vitreous, like porcelain but not translucent

Wedging

- Slamming clay very hard to remove air bubbles, also kneading the clay to make it a smooth consistency.

CLAY WISDOM

Vinegar and clay slip mends broken or cracked greenware.

Use plant mister for keeping clay moist.

Roll clay on oil cloth or canvas.

Put damp cloth or paper towels over forms used for draping.

Support clay with TLC - with 2 hands - like a baby or a raw egg

Raid kitchen, tool box, sewing basket for usable junk. Stress 10 fingers as best tools. Manicure sticks and popsicle sticks are great. Texturing tools are all around you.

1" dowel - 12" long make excellent rollers.

Work on fiber board or wood squares; easier to move work.

Best consistency for slab work is firm but plastic clay.

Soak dry scraps of clay in bucket of water.

Store clay in a diaper bucket or well-fitted garbage can.

Greenware is dry enough to fire if you can hold it up to your cheek and it doesn't feel cold.

Keep area clean. Shake out clay crumbs and wipe tools before storing.

GLAZING

Glazing:

Glaze is glass in a water suspension. Glass is basically sand and is heavy. Must be stirred from the bottom frequently as it separates and settles. Proper consistency is coffee cream. If too thick, add a bit of water and stir. If too thin, don't use. Be sure piece is clean and free from dust. A quick rinse under water is okay. Glaze inside of pot first so it can be handled easily. A really deep pot can be glazed by pouring glaze into it, swishing around quickly and pouring out. Proper application is 3 coats of glaze. DO NOT glaze the bottom of a pot unless absolutely necessary. Be sure all crevices have been covered. Can't tell color from jars. Relieve anxiety by having a chart of glaze samples.

Underglaze:

For detail and fine designs. Especially good on tiles and poured bisque. To prevent smearing, dab first coat of glaze carefully over application, then cover with 2 more coats of glaze.

Reglaze:

Yes, you can reglaze a pot if the color didn't come out right the first time. Glaze should be a little thicker so it will stick to a non-porous surface.

KILN MANAGEMENT

Kiln Wash:

Necessary to coat top surface of shelves. Mix with water to consistency of light cream and paint on smooth coat. This will prevent glaze from sticking to shelf and ruining both pot and shelf. Eventually you will have to scrape off build-up of glaze drips and re-coat with kiln wash.

Temperature Regulation:

If you have an automatic cut-off or a kiln sitter, lucky you! Use cones through peep hole or -- learn how your kiln works and use TIME to regulate heat.

Greenware:

Needs long soaking heat to make sure properly dried. Therefore, keep on LOW for 1 hour, MED. for 1 hour and HIGH for 3 hours.

Bisque:

Can by-pass low heat altogether if pressed for time. Usually run on LOW 20 min., MED. 1 hour, HIGH 4 hours.

Peep-Hole:

Old-tymey potters used this and burned out their retinas!! They could tell temperature from the color of the fire. When it got white hot, it was ready to turn off. That's about 2000° F.

Loading the kiln is a study in strategy -- Try to get all pieces of the same size on a shelf. Sometimes necessary to move things around quite a bit to get a good fit. If you suspect that a piece has too much glaze on it, use a stilt. Also, if piece needs to be glazed all around (jewelry, hanging planter), use stilts. If pressed for time and you have just a few pieces of greenware and just a few pieces of glazed bisque, it is possible to fire them together. Make sure greenware is properly dried. Piece is dry enough to fire if it feels warm to your skin. Damp clay feels cold to the touch. Hold it to your cheek to test.

Place all greenware on bottom of kiln. This way, if something does blow up, it will not affect the glazed pieces. Put a large shelf over the greenware and place glazed pieces on that. Extend firing periods to maximums. LOW 1 hour, MED. 1 hour, HIGH 4 hours. It works!

SAFETY PRECAUTIONS

Two main causes of death for potters used to be silicosis and lead poisoning. They still are, even with OSHA standards. Glazes made today must be labeled with contents. If they have lead content, theoretically they shouldn't be used on food containers. Okay if fired to maximum heat. Don't smoke while glazing, possible ingestion of lead or cadmium from fingers! Powdered glazes are cheaper. Be very careful when mixing. Turn head away from powder when pouring into water.

RESOURCES

I. BOOKS

- Ball, F. Carlton and Lovoos, Janet. Making Pottery Without a Wheel. New York, Reinhold Publishing Co., 1965.
- Hofsted, Jolyn. Step by Step Ceramics. New York, Golden Press, 1967.
- Kenny, John B. Ceramic Design. Philadelphia, Chilton Co., 1963.
- Nelson, Glenn C. Ceramics, A Potter's Handbook. New York, Holt, Rinehart and Winston, Inc., 1971.
- Nigrosh, Leon. Claywork. Worcester, Mass., Denis Publishing Co., 1975.
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- Priolo, Joan and Priolo, Anthony. Ceramics by Coil and Slab. New York, Sterling Publishing Co., Inc., 1979.
- Rothenberg, Polly. Complete Book of Ceramic Art. New York, Crown Publishers, 1972.
- Sunset Books. Ceramic Techniques and Projects. Calif., Lane Publishing, 1977.
- Trevor, Henry. Pottery Step by Step. New York, Watson-Guption Publishers, 1966.
- Wettlaufer, George and Wettlaufer, Nancy. Getting in Pots. New Jersey, Prentice Hall, 1976.
- Woody, Elsbeth. Handbuilding Ceramic Forms. New York, Farrar Straus Giroux, 1978.

II. PERIODICALS

Best magazine for potters remains Ceramics Monthly, Box 12448 Columbus, Ohio 43212 (614 488-8236).

III. SOURCES OF SUPPLIES

Chaselle Arts and Crafts, 9645 Gerwig Lane, Columbia MD 21046 (1-800-CHABELLE). Fast and reliable - carry Amaco and have an excellent catalog.)

Local suppliers of interest: Creek-Turn Inc. 1726 Route 28, Hainesport, NJ 08036 (609 267-1170).

Del-Val Potter's Supply Co., Queen St. and Ivy Hill Rd., Philadelphia, PA 19118. (215 539-8190).

Sneddon Ceramic Studio, Appledale Rd., Trooper, PA (215 539-8190).